

**BY ORDER OF THE COMMANDER  
47TH FLYING TRAINING WING**

**LAUGHLIN AFB INSTRUCTION 48-106**

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***Aerospace Medicine***

**AIRSICKNESS MANAGEMENT PROGRAM  
(AMP)**

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This instruction implements AFPD 48-1, *Aerospace Medicine Program*. It establishes policies and procedures for the Airsickness Management Program and Adaptation Training, conducted by the Flight Surgeon's Office, Mental Health Clinic and Aerospace and Operational Physiology. It does not supersede higher headquarters (HHQ) manuals or instructions. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afrims/afrims/afrims/rims.cfm>.

**SUMMARY OF CHANGES**

This revision outlines what the four phases of Airsickness Management will entail under normal circumstances. It also introduces a Preemptive Airsickness Management Program for those individuals identified during Initial Flight Screening (IFS) or self-identified as high risk candidates for airsickness in T-6 training.

**1. INTRODUCTION.** Airsickness is a common problem for student pilots (SPs) and it can interfere with their progression through Specialized Undergraduate Pilot Training (SUPT). The purpose of the AMP is to prevent and treat airsickness during SUPT. This can be done using a structured AMP protocol which includes education, training and, if necessary, pharmacological and physiologic intervention. The AMP does not interrupt training. Utilization of AMP is based on the principle that airsickness detracts from the ability of the student pilot to learn to fly,

impairs the SP's capability to demonstrate their flying skill and interferes with Instructor Pilot's (IP) ability to evaluate the SP's flying proficiency. The AMP is designed to be a confidence training tool that saves valuable flight training dollars and time by first educating students and preventing airsickness and assisting those students to adapt to the flight environment. Airsickness is a manageable problem, but if the program is to be successful it requires coordination between the flying squadrons, Flight Medicine/Flight Surgeon, Mental Health, and Aerospace and Operational Physiology Training Flight (AOPTF). Prior to SUPT, those individuals identified during IFS (or self identified) as high risk candidates for airsickness may enter a Preemptive Airsickness Management Program with Aerospace and Operational Physiology after Flight Surgeon approval.

**2. DEFINITION.** An episode of airsickness is either active or passive. *Active* airsickness is defined as having emesis (vomiting). *Passive* airsickness does not include emesis but, due to the student's discomfort or nausea, there is deviation from the mission profile. It is the IP's discretion to determine if passive airsickness occurred during the sortie and if that episode mandated deviation from the mission profile. In most cases, airsickness is brief in duration and is related to multi-axial accelerations, pulling +/-Gs, and unfamiliar factors (looking for new landmarks, new flight patterns, new flight profiles, etc.).

### 3. RESPONSIBILITIES

3.1. Flight Surgeon (FS): Is ultimately responsible for diagnosis and treatment of all airsickness cases. They conduct initial and follow-up airsickness awareness briefings, preventative training, and medically evaluate students experiencing airsickness. The evaluation is used to eliminate any physiological or illness related causes of the airsickness. After any physiological or illness problems have been eliminated, the Flight Surgeon has a number of options for treating students. The FS may refer the student to Mental Health for evaluation of Manifestations of Apprehension (MOA), behavior modification, stress training and biofeedback (if available); prescribe desensitizing medications to selected students in the pre-solo phase of training; and/or refer to Aerospace and Operational Physiology for entry into Adaptation Training (Barany chair).

3.2. Mental Health: Conducts behavior modifications training and stress management training. Subjects they cover are: stress management, relaxation and breathing exercises, thought management, evaluate for MOA and behavioral sleep techniques.

3.3. Aerospace and Operational Physiology Training Flight: Conducts Adaptation Training upon referral from the FS using relaxation techniques and the Barany chair. This is a consecutive three-day program in which the student flies before Adaptation Training.

3.4. Student's Flight/CC: Communicates with the FS and AOPTF AMP Instructor on student's progress. Make every effort to schedule student in the 1st period of flying to allow for a Flight Surgeon's visit after flying and appointment with AOPTF for Adaptation Training. If possible, also allows student a one-hour recovery period for re-hydration, relaxation, and practice (breathing/relaxation techniques) after Adaptation Training. If deemed appropriate, Flt/CC and/or IPs are encouraged to participate in Student's Adaptation Training (Phase IV).

### 4. PROCEDURES

4.1. Preemptive Airsickness Management Program: Those individuals who were identified during IFS as high risk candidates for airsickness during SUPT (or who self-identify as being prone to airsickness) have the option to be entered into a Preemptive Airsickness Program prior to Phase II of SUPT. This action requires FS direction. Students will then schedule with Aerospace Physiology and will be entered into a standard three-day Adaptation Training program (see 5. Adaptation Training (Phase IV)). AOPTF will document results and maintain the records at AOPTF, as well as document in TIMS (Training Integration Management System).

4.2. Phase 0: Prior to any flying, **ALL** SUPT students receive a briefing per AETC Instructor Guide (P-V4A-A-JP-IG) by Aerospace and Operational Physiology on the prevention of airsickness. This may include, but is not limited to: education on causes, symptoms, and prevention of airsickness in the UPT environment; stress management; relaxation breathing and techniques; and nutrition guidance.

4.3. Phase I: All students experiencing their **first episode** of airsickness (active or passive) will report to the Flight Medicine Clinic (FMC) before their next flight to rule out any underlying medical cause of the airsickness. If no medical cause is found, the Flight Surgeon will review the airsickness episode with the student to determine if the preventative measures were followed and review the techniques discussed in Phase 0. This will be documented on AETC Form 4293, to be included in the student's electronic grade book.

4.4. Phase II: Upon the **second episode** of airsickness:

4.4.1. The student will report to the FMC for medical evaluation and, barring any unusual circumstances, will be referred to Mental Health.

4.4.2. Mental Health will evaluate the student for MOA, and review stress management and relaxation techniques. Mental Health will focus on the following areas: breathing techniques, muscle tensing exercise, autogenic and imagery skills, proper diet, thought management and behavioral sleep techniques.

4.4.3. The Flt/CC will place the student on the Airsickness Commander's Awareness Program (CAP). Flt/CC should schedule the student to fly in the first period available the next day after evaluation by the Flight Surgeon has occurred.

4.5. Phase III: Upon the **third episode** of airsickness:

4.5.1. The student will report to the FMC for medical evaluation and, unless there are compelling reasons not to do so, the Flight Surgeon will prescribe medications. The FS may, however, prescribe medications during any phase of the AMP.

4.5.2. During the T-6 pre-solo phase of training the Flight Surgeon has the option of treating the student with a combination of Dextroamphetamine Sulfate (5mg) and Scopolamine (0.4 mg) (Scop/Dex) IAW AETCI 48-102 and AETCI 36-2205, Volume 4. The principle behind its use is to prevent an aversion to flying based solely on airsickness. Both Dextroamphetamine Sulfate and Scopolamine pills should be taken together one hour prior to flight. If the flight is cancelled or take-off will be three hours or more after the student takes the medication, the student will contact the Flight Surgeon for instructions. Treatment will be for three consecutive flights during training and treatment will end no later than five sorties prior to initial solo (C4102 or earlier). If the

three consecutive flights are interrupted (i.e. weather) the student will advise the Flight Surgeon in order to obtain a new prescription to allow three consecutive flights on medication. If a student is airsick while on Scop/Dex, the FS may elect to ground test the student with Scop/Dex prior to the next flight. Flying squadron flight commanders must make every effort to maximize continuity on these three sorties in order to derive maximum benefit from the medication (e.g. do not schedule the student just prior to a weekend or extended break). In no case will students fly more than three sorties while taking Scop/Dex without a command approved waiver (waiver requests will be routed through the 47 OG/CC). The specific indications for the use of Scop/Dex are left with the Flight Surgeon. The student will continue with SUPT syllabus and Airsickness CAP. The Flight Surgeon will document when medications are prescribed on AETC Form 4293 for inclusion in the student's electronic grade book.

4.6. Phase IV: If airsickness is experienced after Phase III (**fourth episode**), all factors will be reexamined by the Flight Surgeon with particular attention to motivation for flying and possible MOA. Upon referral from the FS, the student will be entered into Adaptation Training conducted by the AOPTF AMP Instructor. This phase concentrates on preventative education and desensitization training using relaxation techniques and the Barany chair. The FS may prescribe Adaptation Training during any phase of the AMP.

## 5. ADAPTATION TRAINING (PHASE IV)

5.1. Overview: Adaptation Training is a consecutive three day program with each day lasting one to two hours. The program must include three days of flying/spinning as well as three consecutive days of spinning (see 5.4 for more scheduling instructions). Each day of the program focuses on a different aspect of controlling airsickness. **WARNING:** *All flying for the student must be completed **prior** to spinning. Students participating in Adaptation Training **are not** allowed to fly after spinning in the chair until they have had at least 12 hours un-interrupted crew rest.*

5.1.1. **Day One:** Lets the student determine different factors influencing their susceptibility to airsickness. It also gives them the chance to practice mechanical methods of reducing airsickness.

5.1.2. **Day Two:** Focuses on techniques used to relax the body and lower student's airsickness arousal level.

5.1.3. **Day Three:** The confidence builder used to enforce the student's perception they have overcome the obstacle of airsickness.

5.2. Student Responsibility: Practice the relaxation/diaphragmatic breathing techniques while both flying and chair flying. Attend all scheduled training sessions at AOPTF each of the three days.

5.2.1. If there is a break in flying while still in the three day program (due to weather, scheduling, etc.) the student will complete that day of Adaptation Training. If the student does not become airsick on that day's flight, they will still complete the scheduled three day program once referred by the FS.

5.3. AMP Instructor Responsibilities: Counsel students on relaxation techniques using both preventative education and the Barany chair. Tailor instruction to the individual student (the

student's initial interview will help to focus and tailor instruction). Discuss with the student their emotional, mental and physical state of being throughout the entire day. Focus on high stress activities such as emergency procedure stand-up, mission planning, crew briefing, SP/IP relationships and most importantly, progress in flying training.

5.3.1. Instructors will be required to make themselves available for training whenever the student's flying schedule dictates. After normal clinic duty hours (0730-1630) and on weekends, the AMP Instructor may be reached via cell phone: 830-765-4843.

5.4. Flight/CC or IP Responsibility: Communicate with AMP Instructor and FS on student's progress. Schedule the student for the 1st period of flying to allow for the Adaptation Training appointment afterwards (and time for the student to report to the FMC if they were airsick on their prior sortie). Three consecutive days of spinning plus three days of flying in the morning/spinning in the afternoon are ideal for the program to succeed (i.e. if Adaptation Training starts on a Thursday, the student will fly/spin on Thursday and Friday; spin on Saturday; and fly/spin on Monday to complete the three days of flying/spinning requirement). The final spin will be a refresher spin. The same schedule applies for starting the three day program on a Friday (fly/spin Friday; spin Saturday and Sunday; fly/spin Monday and Tuesday). Therefore, it is best to start the Adaptation Training on a Monday, Tuesday, or Wednesday. Flight Commanders and IPs are welcome to participate in Adaptation Training with AMP instructor during spinning by helping the student and instructor focus in on those high stress activities (i.e. checklist, boldface, etc.) that may stimulate the student's airsickness.

## 6. SUBJECTIVE AIRSICKNESS RATING CHART

6.1. The chart is used to graph and evaluate the student's response to duration and stimulus. It allows the student to rate their level of discomfort to their ability to fly the plane. The chart may be used in both the aircraft and/or during Adaptation Training.

**Table 6.1. Airsickness Rating Chart.**

<b>Airsick Rating</b>	<b>Indication</b>
1-3	indicates low arousal not interfering with flight
4-6	indicates a medium arousal, which causes the student to deviate from planned flight (i.e. straight and level flight)
7-9	indicates a high level of arousal which causes the student to transfer flight control to the IP
10	student becomes actively sick

## 7. ADAPTATION TRAINING (SPIN) PROTOCOLS

7.1. Day One Protocol: The primary objective for day one is for the instructor to familiarize themselves with the student, the history of their airsickness, and observe the student's reaction to extensive rotation. This is the diagnostic phase and it includes personal behavioral patterns and physiological/psychological symptoms in relation to airsickness. The student receives three ten minute spins in the chair with one ten minute break in-between each spin.

7.2. Day Two Protocol: The primary objective of day two is to reinforce the student's understanding of their symptoms that precede uncontrollable airsickness by practicing the

deep diaphragmatic breathing and progressive muscle relaxation. The instructor will simulate realistic sensations of aircraft scenarios (climb, dive, check 6, loop, etc) in the Barany chair and require the student to control their arousal level. The goal for each spin is to have the student's arousal peak at least once per spin in the 7-8 range on the arousal scale. Arousal at the higher end of at least once per spin forces the student to control it. When this is accomplished, the student will gain confidence and incorporate the techniques in the airplane. The student receives three ten minute spins in the chair with one ten minute break in-between each spin.

7.3. Day Three Protocol: The primary object is to reinforce the student's confidence in their techniques. The student receives one ten-minute spin and one two-minute spin in the chair with one ten minute break in-between the spins.

7.4. In order to complete the three day fly/spin requirement, one ten-minute refresher spin will be administered (i.e. if student starts Adaptation Training on Thursday, the following Monday would be a refresher spin for third fly/spin day.)

## **8. REFRESHER SPINS**

8.1. Refresher spins are conducted only after the student has completed the three day program. These spins are warranted if the student has had an airsickness episode (passive or active) in the aircraft. Though with any airsickness episode the student must see the Flight Surgeon, they can also self-refer to AOPTF at anytime if they feel a refresher spin is necessary. Documentation of the student's performance during the spin will be annotated in TIMS on the AETC Form 4293. Students will be responsible for scheduling refresher spins with AOPTF.

8.2. The Flight Surgeon has the option to refer a student to AOPTF for a refresher spin after an extended DNIF or non-flying period (4+ days).

## **9. AFTER HOURS PROCEDURES**

9.1. If a student has an airsickness episode after normal clinic hours, the Flt/CC may contact the on-call Flight Surgeon via the Command Post (x5167). The Flight Surgeon may refer the student to AOPTF for the initial three-day program or refresher spin (AOPTF cell phone 830-765-4843).

MICHAEL R. FRANKEL, Colonel, USAF  
Commander

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 33-360, *Publications and Forms Management*, 18 May 2006

AETCI 48-102, *Medical Management of Undergraduate Flying Training Students*, 16 November 2009

AETCI 36-2205V4, *Formal Flying Training Administration and Management*, 31 Aug 2010

***Adopted Forms***

AF Form 847, *Recommendation for Change of Publication*

AETC Form 4293, *Student Activity Record*

***Abbreviations and Acronyms***

**AMP**—Airsickness Management Program

**AOPTF**—Aerospace and Operational Physiology Training Flight

**CAP**—Commander's Awareness Program

**DNIF**—Duty Not Including Flying

**FS**—Flight Surgeon

**FMC**—Flight Medicine Clinic

**HHQ**—Higher Headquarters

**IFS**—Initial Flight Screening

**IP**—Instructor Pilot

**SUPT**—Specialized Undergraduate Pilot Training

**MOA**—Manifestations of Apprehension

**RTFS**—Return to Flying Status

**SP**—Student Pilot

**TIMS**—Training Integration Management System

## Attachment 2

## T-6 AIRSICKNESS DECISION MATRIX

Figure 2.1. T-6 Airsickness Decision Matix.

